



PTO/SB/08A (04-03)

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Substitute for form 1449/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Complete if Known

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| Application Number | 10/805,869 |
| Filing Date | March 22, 2004 |
| First Named Inventor | Joseph Gerard Birmingham |
| Art Unit | Unknown |
| Examiner Name | Unknown |
| Attorney Docket Number | MET 005 |

Sheet 1 of 2

| U. S. PATENT DOCUMENTS | | | | | |
|--|--------------------------|--|--------------------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number-Kind Code ² (if known) | | | |
| CT ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ | | US- 6,062,392 | 05-16-2000 | Birmingham et al. | |
| | | US- 6,110,247 | 08-29-2000 | Birmingham et al. | |
| | | US- 6,156,212 | 12-05-2000 | Rader et al. | |
| | | US- 6,270,558 B1 | 08-07-2001 | Theiler | |
| | | US- 6,432,630 B1 | 08-13-2002 | Blankenstein | |
| | | US- 6,465,225 B1 | 10-15-2002 | Fuhr et al. | |
| | | US- 6,467,630 B1 | 10-22-2002 | Zborowski et al. | |
| | | US- 6,488,900 B1 | 12-03-2002 | Call et al. | |
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| FOREIGN PATENT DOCUMENTS | | | | | | |
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| | | Country Code ³ -Number ⁴ -Kind Code ⁵ (if known) | | | | |
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Examiner
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/Cyril Tai

Date
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07/07/2006

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| | | Art Unit | Unknown |
| | | Examiner Name | Unknown |
| Sheet 2 | of 2 | Attorney Docket Number MET 005 | |

| NON PATENT LITERATURE DOCUMENTS | | | |
|---------------------------------|-----------------------|---|----------------|
| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
| CT | | "Generating Particle Beams of Controlled Dimensions and Divergence: I. Theory of Particle Motion in Aerodynamic Lenses and Nozzle Expansions", Aerosol Science and Technology, Vol. 22, No. 3, pp. 293-313 (1995). | |
| ↓ | | "Generating Particle Beams of Controlled Dimensions and Divergence: II. Experimental Evaluation of Particle Motion in Aerodynamic Lenses and Nozzle Expansions", Aerosol Science and Technology, Vol. 22, No. 3, pp. 314-324 (1995). | |
| ↓ | | "Virtual Impactors: A Theoretical Study", Environmental Science & Technology, Vol. 14, No. 8, pp.976-985 (1980) | |
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| Examiner Signature | /Cyril Tai | Date Considered | 07/07/2006 |
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| | | Number-Kind Code ² (if known) | | | |
| CT | | US- 6,488,900 B1 | 12-03-2002 | Call et al. | |
| | | US- 6,490,812 B1 | 12-10-2002 | Bennett et al. | |
| | | US- 6,533,840 B2 | 03-18-2003 | Martin et al. | |
| | | US- 6,010,554 | 01-04-2000 | Birmingham et al. | |
| | | US- 6,062,392 | 05-16-2000 | Birmingham et al. | |
| | | US- 6,120,573 | 09-19-2000 | Call et al. | |
| | | US- 6,290,065 B1 | 09-18-2001 | Kenning et al. | |
| | | US- 6,156,212 | 12-5-2000 | Rader et al. | |
| | | US- 6,386,015 B1 | 05-14-2002 | Rader et al. | |
| | | US- 6,432,630 B1 | 08-13-2002 | Blankenstein | |
| | | US- 6,270,558 B1 | 08-07-2001 | Theiler | |
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